

## Environmental Measurement While Drilling (TechID 8)

Downhole sensors located behind a directionally controlled drill bit are linked to a computer at the surface. During drilling, data are collected on the nature and extent of radioactive contamination. Thus enabling the real-time optimization of drilling and sampling strategies. The downhole sensors include a gamma spectrometer, magnetometer, accelerometer, temperature sensor, and voltage monitor package with a high-speed data transmission system that allows real-time storage and display of data.



### Developers:

- Sandia National Laboratories

### Applications:

- Landfills, pits, trenches, and radionuclide contaminated soil at all sites suitable for horizontal drilling

### Benefits:

- Reduces costs by saving the time and expense of analyzing data off site and minimizing secondary wastes
- Addresses requirements in CERCLA, RCRA, and local FFCAs
- Enhances worker safety by alerting personnel to potential hazards and thus reduces ESH risks
- Provides more accurate placement of directionally drilled wells

### Status:

- FY95 field demonstration at a suspected uranium plume
- FY96 deployment at a retention basin mapping Cs-137 plume at Savannah River Site
- FY98 hot site demo of improved gamma spectrometer, sensor positioning system and other sensors at Hanford
- FY99 deployment of several sensors at Hanford
- FY00 deployment (non-DOE) at John F. Kennedy International Airport Runways in New York City, NY
- FY01 deployment at Rocky Flats Environmental Technology Site in Golden, CO
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